



Summary

Introduction

INTRODUCTION

This product provides a range of information about the release of microdata from Characteristics of Employment (COE) for the years 2014 to 2019, including details about the survey methodology and how to use the TableBuilder product. Information on the conditions of use and the quality of the microdata are also provided. A TableBuilder is an online tool for creating tables and graphs.

Microdata are the most detailed information available from a survey and are generally the responses to individual questions on the questionnaire or data derived from two or more questions.

The COE survey is conducted in August throughout Australia and is designed to provide statistics on weekly earnings of employees which shows: the distribution of weekly earnings of all wage and salary earners classified by full-time/part-time workers; and employment characteristics which presents data on trade union membership, fixed-term contracts, independent contractors, working arrangements, and employment found through a labour hire firm or employment agency, all of which can be cross classified by other employment characteristics such as hours worked, industry, occupation and sector of job as well as personal characteristics.

Further information about this product, and other information to assist users in understanding and accessing microdata in general, is available from the Microdata Entry Page. Before applying for access, users should read and familiarise themselves with the information contained in the User Manual: TableBuilder.

APPLYING FOR ACCESS

To apply for access to TableBuilder, register and apply in Registration Centre.

Further information on access steps can be found in How to Apply for Microdata on the ABS website.

FURTHER INFORMATION

Further information about the survey and the microdata can be found in the various pages associated with this product, including:

- A detailed list of data items for the COE TableBuilder, available in the Downloads tab.
- The Quality Declaration in the Explanatory Notes tab.
- Other related products on the Related Information tab.

SUPPORT

For further support in the use of this product, please contact Microdata Access Strategies on 02 6252 7714 or via microdata.access@abs.gov.au.

DATA AVAILABLE ON REQUEST

Data collected in the survey but not included in TableBuilder may be available from the ABS, on request, as statistics in tabulated form.

Subject to confidentiality and sampling variability constraints, special tabulations can be produced incorporating data items, populations and geographic areas selected to meet individual requirements. These are available, on request, on a fee for service basis. Contact the National Information and Referral Service on 1300 135 070 or client.services@abs.gov.au for further information.

PRIVACY

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Survey Methodology

General information about the Characteristics of Employment (COE) survey, including summary results, are available in the publication Characteristics of Employment, Australia (cat. no. 6333.0).

Detailed information about the survey including scope and coverage, survey design, data collection methodology, weighting, estimation and benchmarking, estimate reliability and a glossary can be accessed from the Explanatory Notes page of the publication. All published summary tables, in Excel spreadsheet format, can be accessed from the Downloads page.

File Structure and Content

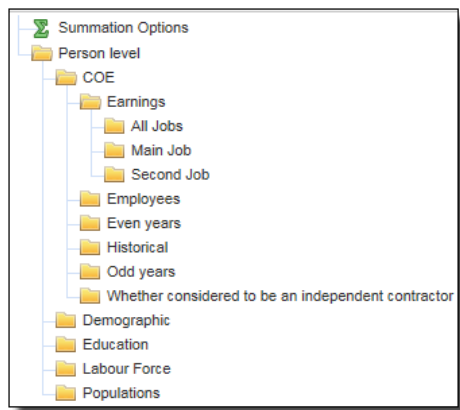
FILE STRUCTURE AND CONTENT

FILE STRUCTURE

The underlying format of the Characteristics of Employment (COE) TableBuilder file is structured at a single person level. This person level contains general demographic information such as age, sex, country of birth and status of employment as well details about weekly earnings, working arrangements and qualifications.

When tabulating data from TableBuilder, person weights are automatically applied to the underlying sample counts to provide the survey's population estimates.

The data items included in the COE TableBuilder are grouped under broad headings and subheadings as shown in the image below. A complete data items list can be accessed from the Downloads tab.



FILE STRUCTURE

Reference Year

The COE TableBuilder contains a mandatory field called Reference year to allow for historical analysis. By default this field will be present in any new table as per the image below:

Reference year 	August 2014	August 2015	August 2016	August 2017	August 2018	August 2019
	-	-	-	-	-	-

For further information see [About this data](#), [Data Confidentiality](#), [Relative Standard Error](#)

NOTE: Retrieve data to view table annotations.

Individual years can be removed from the table using the data item panel by selecting the required year and removing it from the table as per the image below:



However, at least one category (reference period) of the mandatory field must be present in a table for TableBuilder to retrieve data.

Biennial Content

The COE TableBuilder contains biennial content, distinguished by odd and even years in the Data items list as per the image below:

Characteristics of Employment Data Items			
Data item label and categories		Applicable Populations	
		Odd years	Even years
Whether worked weekdays and/or weekends in all jobs		All	Not applicable
1	Weekdays only		
2	Weekends only		
3	Both weekdays and weekends		
Trade union membership		Not applicable	All
1	Trade union member in main job		
2	Trade union member not in connection with main job		
3	Not a trade union member		
4	Did not know		

When a data item is placed in a table and was not applicable for a particular reference year, TableBuilder will return a "Not applicable" reference. Where data is requested for multiple years for a biennial item, TableBuilder will retrieve data at the applicable reference year and return "Not applicable" for the year that the data item was not collected.

Not Applicable Categories

Most data items included in the TableBuilder file include a 'Not applicable' category. The classification values of these 'Not applicable' categories, where relevant, are shown in the data item list in the Downloads tab. The 'Not applicable' category generally represents the number of people who were not asked a particular question or the number of people excluded from the population for a data item when that data were derived (e.g. Status of employment in second job is not applicable for people without a second job).

Table Populations

The population relevant to each data item should be kept in mind when extracting and analysing data. The actual population count for each data item is equal to the total cumulative frequency minus the 'Not applicable' category.

Generally, some populations can be 'filtered' using other relevant data items. For example, if the population of interest is 'Employees', any data item with that population (excluding the 'Not applicable' category) could be used.

Zero Value Cells

Tables generated from sample surveys will sometimes contain cells with zero values because no respondents that satisfied the parameters of a particular cell in a table were in the survey. This is despite there being people in the general population with those characteristics. This is an example of sampling variability which occurs with all sample surveys. Relative Standard Errors cannot be generated for zero cells.

Availability of median earnings data in TableBuilder

For the Characteristics of Employment survey, median weekly earnings are considered to be a more robust measure of centre for earnings data and have been given more prominence since August 2017.

To minimise the risk of identifying individuals in aggregate statistics, a technique is used to randomly adjust cell values. This technique is called perturbation. Perturbation involves small random adjustments of the statistics and is considered the most satisfactory technique for avoiding the release of identifiable statistics while maximising the range of information that can be released.

The ABS has tested and implemented a new perturbation process in respect of median earnings data to ensure that both the confidentiality of individuals are maintained, and the integrity of medians is better preserved.

Using TableBuilder

USING TABLEBUILDER

For general information relating to the TableBuilder or instructions on how to use features of the TableBuilder product, please refer to the User Manual: TableBuilder (cat. no. 1406.0.55.005).

More specific information applicable to the Characteristics of Employment (COE) Survey TableBuilder, which should enable users to understand, interpret and tabulate the data, is outlined below.

CONFIDENTIALITY FEATURES IN TABLEBUILDER

In accordance with the Census and Statistics Act 1905, all the data in TableBuilder are subjected to a confidentiality process before release. This confidentiality process is undertaken to avoid releasing information that may allow the identification of particular individuals, families, households, dwellings or businesses.

Processes used in TableBuilder to confidentialise records include the following:

- perturbation of data; and
- table suppression

Perturbation Effects

To minimise the risk of identifying individuals in aggregate statistics, a technique is used to randomly adjust cell values. This technique is called perturbation. Perturbation involves small random adjustments of the statistics and is considered the most satisfactory technique for avoiding the release of identifiable statistics while maximising the range of information that can be released. These adjustments have a negligible impact on the underlying pattern of the statistics.

The introduction of these random adjustments result in tables not adding up. As a result, randomly adjusted individual cells will be consistent across tables, but the totals in any table will not be the sum of the individual cell values. The size of the difference between summed cells and the relevant total will generally be very small.

Please be aware that the effects of perturbing the data may result in components being larger than their totals. This includes determining proportions.

Table suppression

Some tables generated within TableBuilder may contain a substantial proportion of very low counts within cells (excluding cells that have counts of zero). When this occurs, all values within the table are suppressed in order to preserve confidentiality. The following error message below is displayed (in red) at the bottom of the table when table suppression has occurred.

ERROR: The table has been suppressed as it is too sparse
ERROR: table cell values have been suppressed

COUNTING UNITS AND WEIGHTS

Weighting is the process of adjusting results from a sample survey to infer results for the total population. To do this, a 'weight' is allocated to each record. The weight is the value that indicates how many population units are represented by each sample unit.

To produce estimates for the in-scope population you must use a weight field in your tables. In TableBuilder they can be found under the Summation Options category in the left hand pane under the applicable level. If you do not select a weight field, TableBuilder will apply 'Person weight' by default. This will give you estimates of the number of persons.

If you are estimating the number of persons with certain characteristics (e.g. 'Number of non-school qualifications completed') the weight listed under the category heading 'Person level weighting' must be used.

SELECTING DATA ITEMS FOR CROSS-TABULATION

The Person level contains a range of data items detailing the characteristics of the respondent including COE, demographic, education, labour force and population variables.

Populations and Data items

When adding a data item to a table, an associated population should also be used to ensure correct data is retrieved from TableBuilder. For example, the data item "Whether employment had a set completion date or event in main job" is only applicable to "Employees in main job", so when using this item in a table only the population "Employees in main job" should also be used.

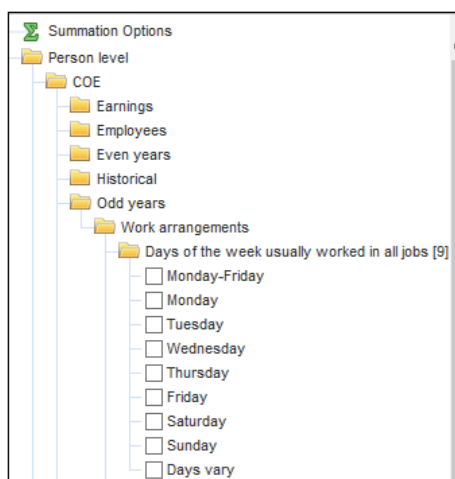
Similarly, if users want to add multiple data items to a table they should ensure that these data items are applicable to the same population group.

Cross-tabulating Data items on the same level

Cross-tabulating data from the Person Level with other data items from the same level will produce data about people. For example, cross-tabulating the geographic variable 'State or territory of usual residence' by the 'Hours usually worked in main job' produces a table showing the number of people in each region by the hours that they usually work each week in their main job.

MULTI-RESPONSE DATA ITEMS

A number of the survey's data items allow respondents to report more than one response. These are referred to as 'multi-response data items'. An example of such a data item is pictured below. For this data item respondents can report all of the days of the week they usually work.



When a multi-response data item is tabulated, a person is counted against each response they have provided (e.g. a person who responds 'Monday' and 'Thursday' and 'Saturday' will be counted once in each of these three categories).

As a result, each person in the appropriate population is counted at least once, and some persons are counted multiple times. Therefore, the total for a multi-response data item will be less than or equal to the sum of its components.

For more information on definitions and concepts that apply to the data items in this file, please refer to Characteristics of Employment, Australia (cat. no. 6333.0) and Labour Force, Australia (cat. no. 6202.0).

Conditions of Use

CONDITIONS OF USE

USER RESPONSIBILITIES

The Census and Statistics Act 1905 includes a legislative guarantee to respondents that their confidentiality will be protected. This is fundamental to the trust the Australian public has in the ABS, and that trust is in turn fundamental to the excellent quality of ABS information. Without that trust, survey respondents may be less forthcoming or truthful in answering our questionnaires. For more information, see 'Avoiding inadvertent disclosure' and 'Microdata' on our web page [How the ABS keeps your information confidential](#).

The release of microdata must satisfy the ABS legislative obligation to release information in a manner that is not likely to enable the identification of a particular person or organisation. Therefore, in accordance with the Census and Statistics Act, a confidentiality process is applied to the data in TableBuilder to avoid releasing information that may lead to the identification of individuals, families, households, dwellings or businesses.

Prior to being granted access to TableBuilder users must agree to the following ABS Terms and Conditions of TableBuilder Access.

The TableBuilder and DataPacks Help and FAQs page has additional information on the following:

- Registration and access
- Pricing and Subscriptions
- Responsibilities when using TableBuilder
- Problems and error messages

CONDITIONS OF SALE

All ABS products and services are provided subject to the ABS Conditions of Sale. Any queries relating to these Conditions of Sale should be emailed to intermediary.management@abs.gov.au.

AUSTRALIAN UNIVERSITIES

The ABS/Universities Australia Agreement provides participating universities with access to a range of ABS products and services. This includes access to microdata. For further information, university clients should refer to the [ABS/Universities Australia Agreement web page](#).

FURTHER INFORMATION

The Microdata Entry Page contains links to microdata related information to assist users in understanding and accessing microdata. For further information users should email microdata.access@abs.gov.au or telephone (02) 6252 7714.

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About this Release

Microdata product that contains information on: weekly earnings of employees which shows the distribution of weekly earnings of all wage and salary earners classified by full-time/part-time workers; employment characteristics which presents data on trade union membership, fixed-term contracts, and independent contracts all of which can be cross classified by other employment characteristics such as hours worked, industry, occupation and sector of job as well as personal characteristics.

Explanatory Notes

Quality Declaration

QUALITY DECLARATION - SUMMARY

INSTITUTIONAL ENVIRONMENT

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

RELEVANCE

The 2019 Survey of Characteristics of Employment (COE) presents information about the distribution of weekly earnings in main job and all jobs, employment arrangements, trade union memberships, independent contracting, working arrangements and persons who found their job through a labour hire firm. The collection of a range of socio-demographic and labour force characteristics makes the datasets produced from the survey extremely valuable for comparing and analysing the distribution of both weekly and hourly earnings across different population groups. Data are used in the development and review of wages and labour market policies, and in wage negotiation processes.

TIMELINESS

The Characteristics of Employment survey is conducted annually in August as a supplement to the Australian Bureau of Statistics (ABS) monthly Labour Force Survey (LFS). Results from this survey are released in the publication Characteristics of Employment, Australia (cat. no. 6333.0).

ACCURACY

Estimates from the Characteristics of Employment Survey are subject to sampling and non-sampling errors. Relative standard error (RSE) is a measure of the size of the sampling error affecting an estimate, i.e. the error introduced by basing estimates on a sample of the population rather than the full population. Non-sampling errors are inaccuracies that occur due to imperfections in reporting by respondents and interviewers, and errors made in coding and processing data.

This publication was designed primarily to provide estimates at the Australia level. Broad estimates are available for state/territory and/or greater capital city/rest of state, though users should exercise caution when using estimates at this level because of the presence of high sampling errors. Relative Standard Errors for all estimates are available in the relevant Datacube. More information on Standard Errors is available in the Technical Note of this release.

For further information regarding the accuracy of the COE survey estimates see the Technical Note.

COHERENCE

Caution should be exercised when comparing the estimates from this release with previous similar surveys as some data items have changed and population groups are conceptually different.

Caution should be exercised when comparing results from the 2019 COE to previous Forms of Employment (FOE) (2008–2013) and Employee Earnings, Benefits and Trade Union Membership (EEBTUM) as the population employees in this release is not directly comparable to the Employees population in both FOE and EEBTUM. Revised historical estimates on a coherent basis were re-published in the August 2017 issue of COE (cat. no. 6333.0).

For information on the comparability of time series for the publication Employee Earnings, Benefits and Trade Union Membership, Australia (cat. no. 6310.0), see the Explanatory Notes.

For information on the comparability of time series for the publication Forms of Employment, Australia (cat. no. 6359.0), see the Explanatory Notes.

For information on the comparability of time series for the publication Working Time Arrangements, Australia (cat. no. 6342.0), see the Explanatory Notes.

INTERPRETABILITY

Contained within COE are Datacubes with commented data to aid interpretation of the results of the survey. Detailed Explanatory Notes, a Technical Note and a Glossary are also included providing information on the terminology, classifications and other technical aspects associated with these statistics.

Further commentary is often available through articles and data published in other ABS products, including:

- Labour Force, Australia (cat. no. 6202.0); and
- Concepts, Sources and Methods (cat. no. 6102.0.55.001).

DATA ACCESS

Characteristics of Employment, Australia (cat. no. 6333.0) is released electronically via the ABS website as Datacubes in spreadsheet format. Additional data may be available on request (subject to data quality). Note that detailed data can be subject to high relative standard errors.

For users who wish to undertake a more detailed analysis of the data, the survey microdata will be released through the TableBuilder product. For more details, refer to the TableBuilder information, Microdata: Characteristics of Employment, Australia (cat. no. 6333.0.00.001). For more information see About TableBuilder.

For further information about ABS data available on request, contact the National Information and Referral Centre on 1300 135 070 or via email to client.services@abs.gov.au.

